

space food



space foods

Space foods are processed to ensure quality and safety.

Fresh fruits and vegetables -

- They are minimally processed & they're **sanitized with a 200 (ppm) chlorine rinse.**
- Then they air-dried and then placed on a food tray, ready to be stored in the fresh food locker.
- Some vegetables, like carrots and celery, are packaged in sealable bags.
- All fresh foods need to be eaten within the first few days of a mission because they spoil quickly.



processing -

NASA scientists use certain processing techniques to make foods shelf stable at room temperature.

- **Thermostabilization -**

Heat processing can extend shelf life to three years.

- **Irradiated foods -**

They are shelf stable because they're sterilized by a dose of ionizing radiation.

- **Lowering the pH and water activity -**

These factors in foods can also stabilize them.

- **Freeze-drying -**

Removing water from foods, inhibits microbial growth, and mold growth can be prevented by removing oxygen from packaging.

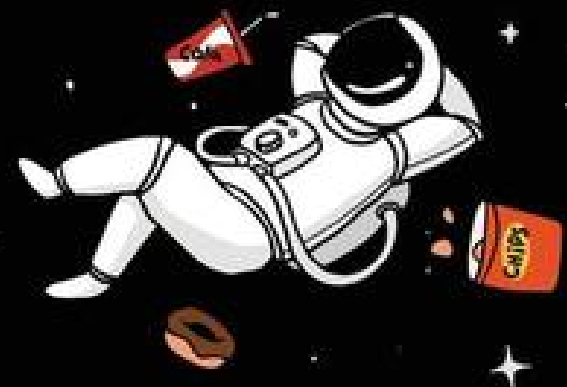
food safety plan

HACCP Came Out of the Apollo Program for Human Spaceflight.

HACCP (Hazard Analysis and Critical Control Point) is a food safety protocol developed **as part of humans' outer space exploration** program.

Food for astronauts, in the closed environment of a space capsule or space station, **needed to be safe.**

To ensure the safety of the food, the NASA, working together with a food manufacturer, **developed the protocol in 1971.**

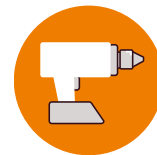


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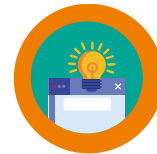
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